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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/050,182    03/26/98    OHNUMA    H    07977/242001

020985    IM62/1101  
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EXAMINER

KUNEMUND, R

ART UNIT

PAPER NUMBER

1765

15

DATE MAILED:

11/01/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/050,182

Applicant(s)

Ohuma et al

Examiner

Robert Kunemund

Group Art Unit

1765



☒ Responsive to communication(s) filed on Jul 31, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-81 is/are pending in the application.

Of the above, claim(s) 60-74 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed,

☒ Claim(s) 1-59 and 75-81 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Newly submitted claims 60-74 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The newly submitted claims 60-65 require the formation of a layer of catalyst material which is a different and distinct process than that which was originally claimed. The metal in the original claim was not in the form of a layer. Further, the newly submitted claims require the formation of gate electrode below the silicon layer and formed prior to annealing which is a different process than that which was originally claimed, noting, gate electrode formation was not part of claim 1. Claims 66 to 74 all set forth a specific device. However, each of the devices set forth require materials and processing steps not originally claimed. For example, there is a multitude of steps in order to form a personal computer then deposition, heating and patterning as instantly set forth.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 60-74 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### The Rejections

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

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harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 to 59 and 76 to 81 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 5,700,333. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference is the device formed and heating. However, in the absence of unobvious results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentation the optimum, operable device formed as the instant claims form any device and heating in order to decrease heating time.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 to 16, 76 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (5,700,333)..

The Yamazaki et al reference teaches a method of device formation. On a substrate, a layer of amorphous silicon is deposited and then catalysts are placed in contact with the silicon. The silicon is heated in order to crystallize the silicon. Then a gettering agent is added to the silicon layer. Then the structure is reheated to remove the catalyst. The second heating step is around 550°C, note entire reference. The sole difference between the instant claims and the prior art is the device formed. However, in the absence of unobvious results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentation the optimum, operable types of devices made in the Yamazaki et al reference in order to create devices with low impurity silicon layer.

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Claims 17 to 59, 75 and 78 to 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (5,700,333) in view of Zhang et al (5,569,936).

The Yamazaki et al reference is relied on for the same reasons as stated, *supra*, and differs from the instant claims in the use of lasers to crystallize the silicon. However, the Zhang et al reference teaches catalyst crystallization of amorphous silicon by using lasers, note figures. It would have been obvious to one of ordinary skill in the art to modify the Yamazaki et al reference by the teachings of the Zhang et al reference to use lasers in order to decrease the time of crystallization.

*Response to Applicants' Arguments*

Applicant's arguments filed July 31, 2000 have been fully considered but they are not persuasive.

Applicants' argument concerning the gettering in view of the references is noted. However, the references are not limited to gettering only the islands are instantly claimed.

The references set forth gettering the areas to be crystallized which reads on patterning the gettering. The Yamazaki et al reference in column 6 teaches gettering only a selected region and then performing a second heat treatment to getter the metal. The region that has the phosphors and the catalyst then can be removed, leaving a crystallized island which is used in the device formation. An active is deposited or formed on the island areas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Kunemund whose telephone number is (703) 308-1091. The examiner can normally be reached on Monday through Friday from 7:00 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ben Utech, can be reached on (703) 308-3836. The fax phone number for this Group is (703) 305-6357.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



ROBERT KUNEMUND  
PRIMARY PATENT EXAMINER  
A.U. 117

RMK

October 25, 2000